



# IK1501 Communication Systems 7.5 credits

## Kommunikationssystem

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

## Establishment

Course syllabus for IK1501 valid from Autumn 2010

## Grading scale

A, B, C, D, E, FX, F

## Education cycle

First cycle

## Main field of study

Technology

## Specific prerequisites

## Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

## Intended learning outcomes

Give the student the ability to analyze the design parameters of a communication system. That means that the student should be able to:

- Explain the system structure of analogue and digital communication systems
- Explain basic digital- and analogue modulation methods
- Use mathematical tools to analyse the performance of communication systems
- Use probability theory and stochastic processes in communication system applications.
- Explain the use of source- and channel coding in a communication system

## Course contents

- Analogue and digital modulation
- Analogue and digital transmission
- Random signals and noise
- Introduction to channel-and source coding

## Course literature

Carlsson B., P. Crilly, J. Rutledge, Communication Systems, McGrawHill, 2002

## Examination

- INL1 - Problem Assignments, 1.5 credits, grading scale: P, F
- TEN1 - Examination, 6.0 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

## Other requirements for final grade

Written examination, TEN1, 6 HEC, Grade: AF

Problem assignments, INL1, 1,5 HEC, Grade PF

## Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.